

International Workshop on Physics in Intense Field

November 24 – 26, 2010

T.Takahashi
Hiroshima Univ.

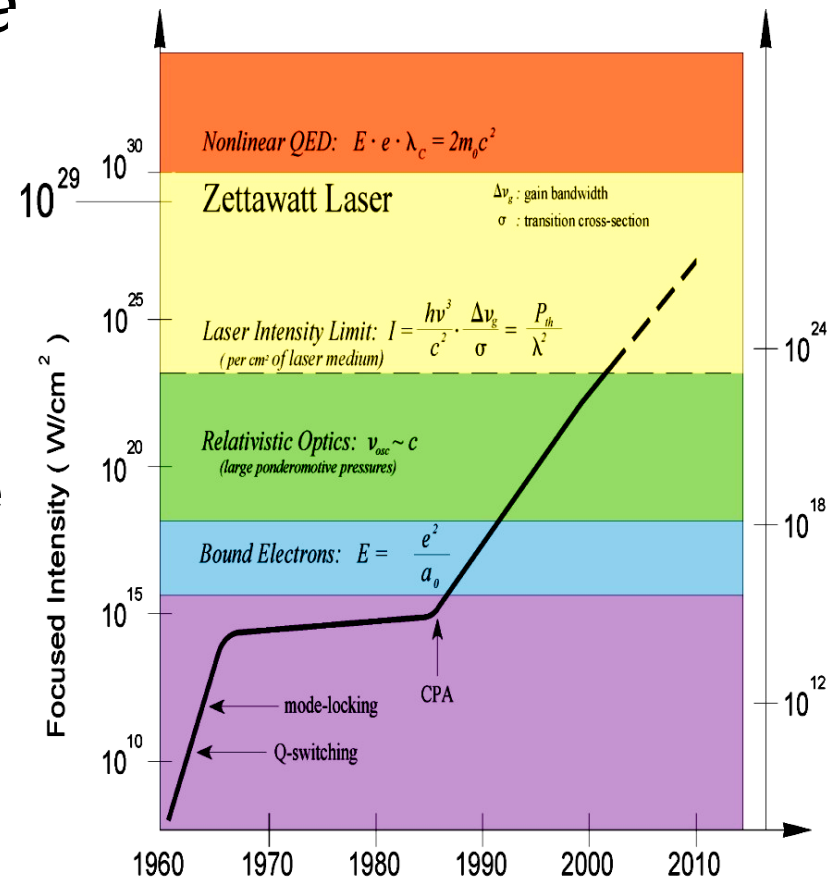
June 10 2009
ATF2 meeting

Background

- We want program for the ATF after 2012

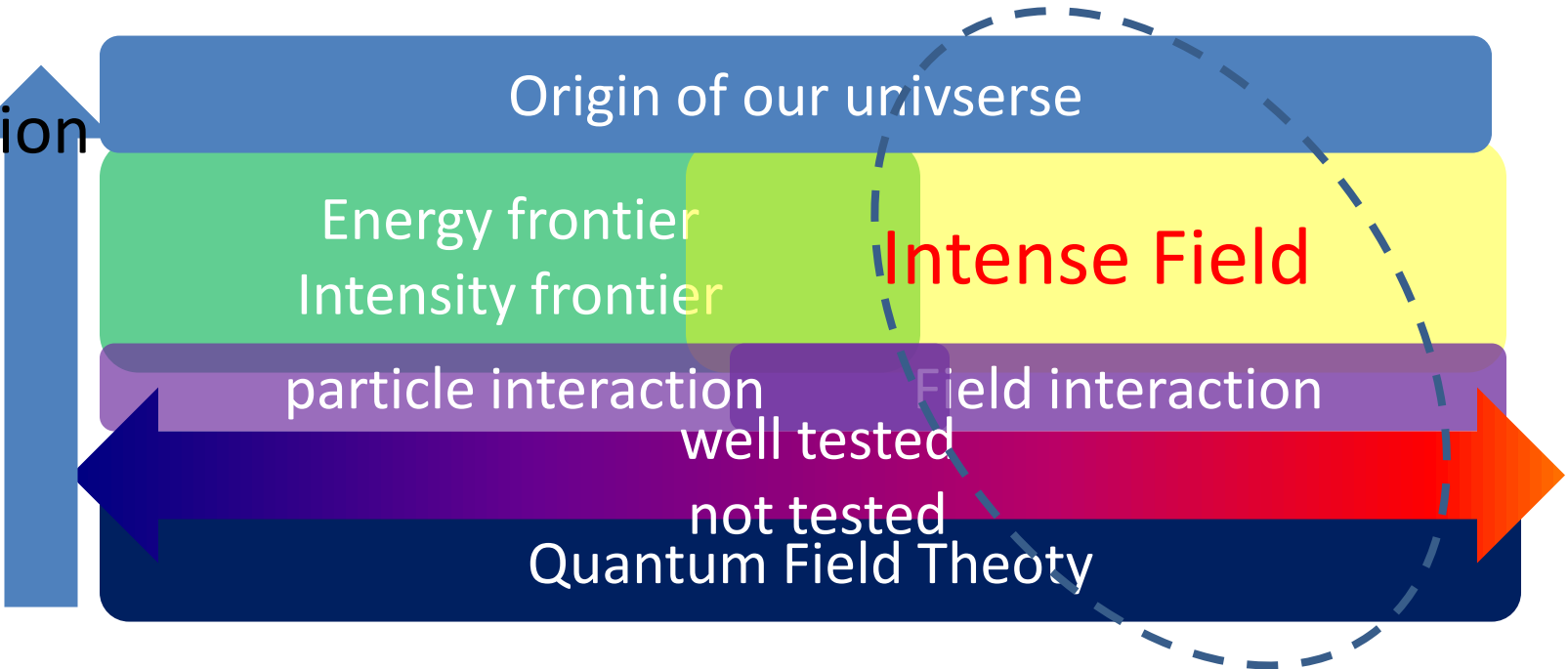
- Recent laser technology:

- 100TW/10Hz system is on a commercial base
- 1PW with a low rep. rate system is also on a commercial base.
- 1PW/10Hz system could be possible with improving 100TW/10Hz system.
 - 10^{22} W/cm² has been already achieved



Physics background

Motivation



Technique



What we possibly can do

Laser

Accelerator

many experiences and
technique

ultra low emittance beam
sophisticated controll

Laser × Accelerator

ATF/ATF2 is a good place to plan
scientific program by merging the two

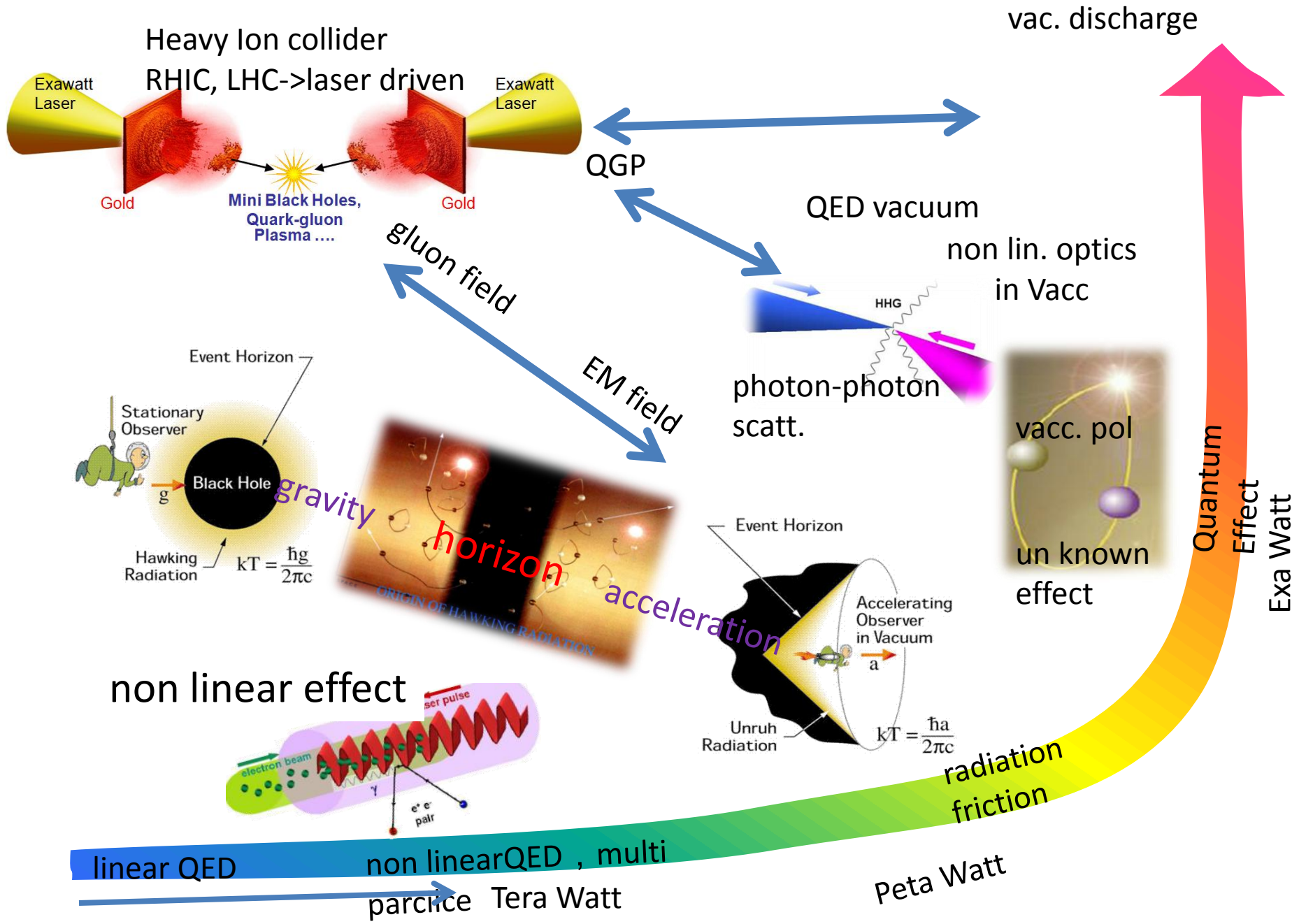
We already have some history

- JFY 2008
 - Budget proposal to JSPS but not successful
- December 2008
 - started discussion to organize new working group
 - making attractive scenario in high intense field
 - make reliable project plan
- February 2009
 - Visited UK to discuss possible plan
- JFY 2009
 - series of local meeting at KEK

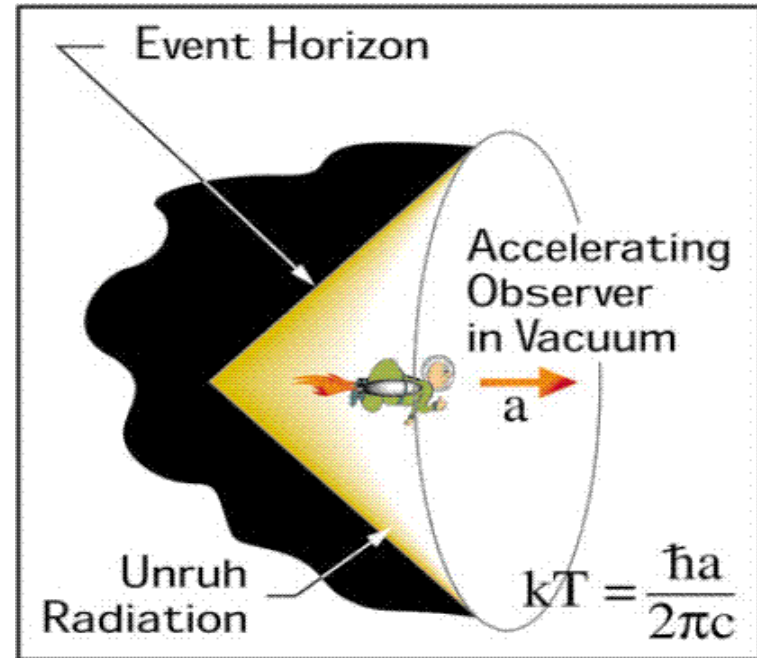
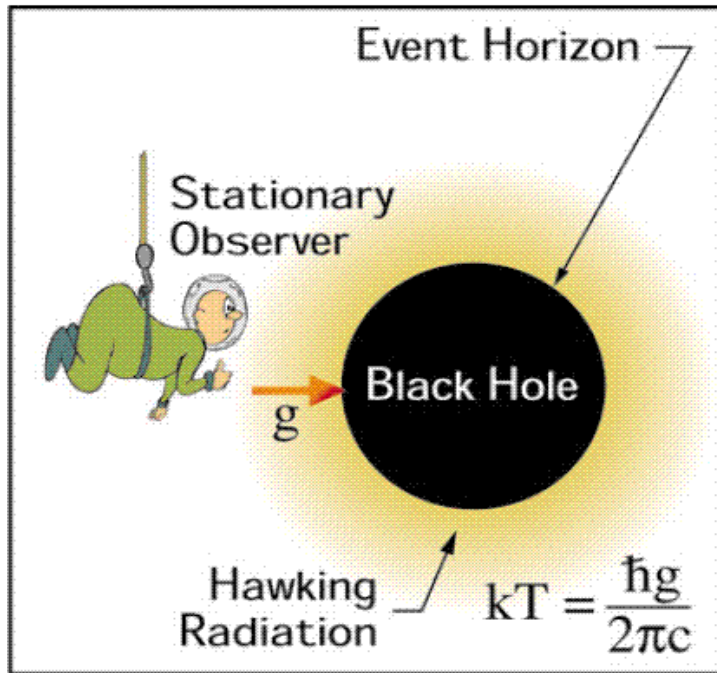


organizing a international workshop

example of topics

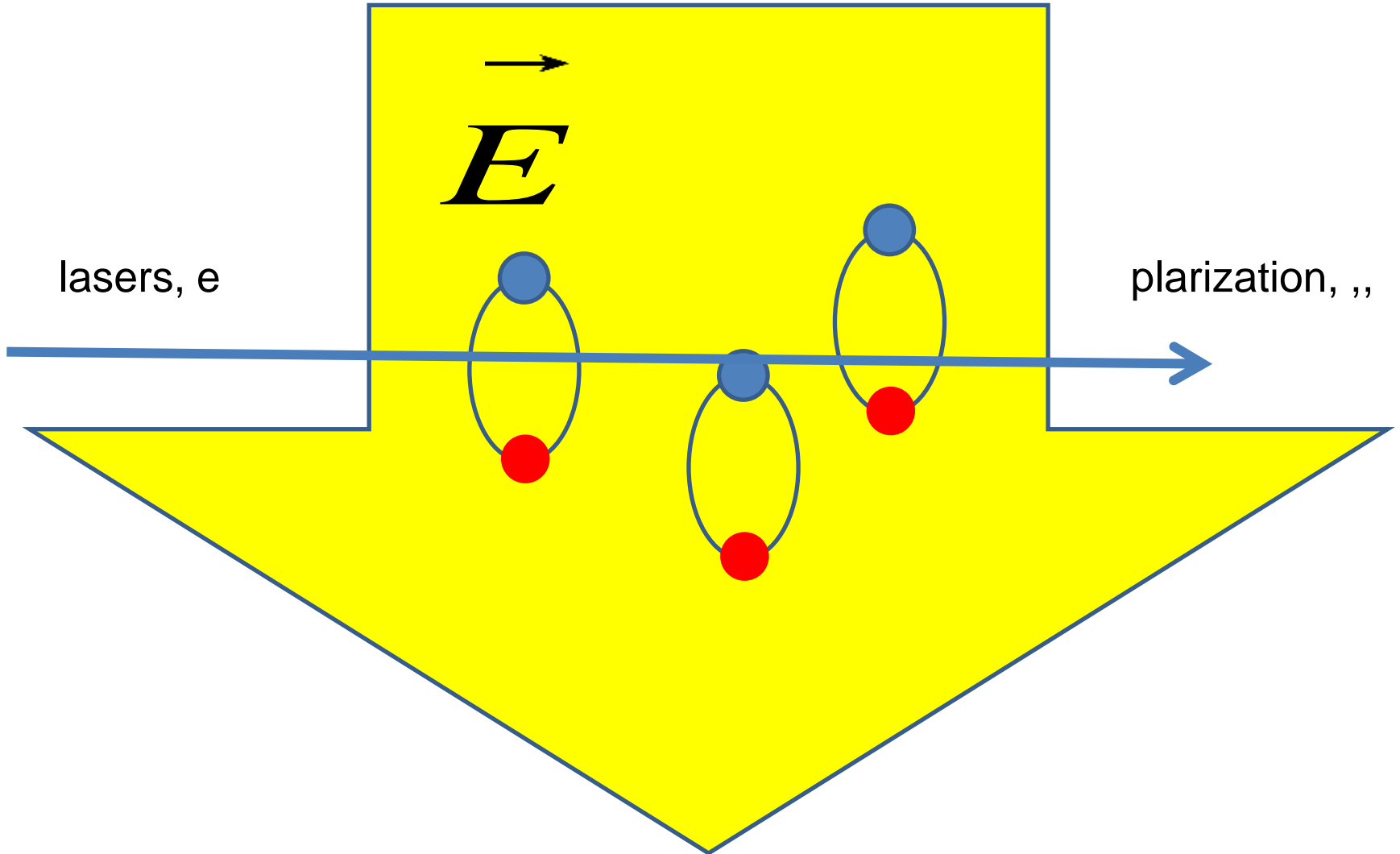


Hawking – Unruh effect



See Tauchi san for detail of the feasibility at ATF/ATF2

Vacuum polarization

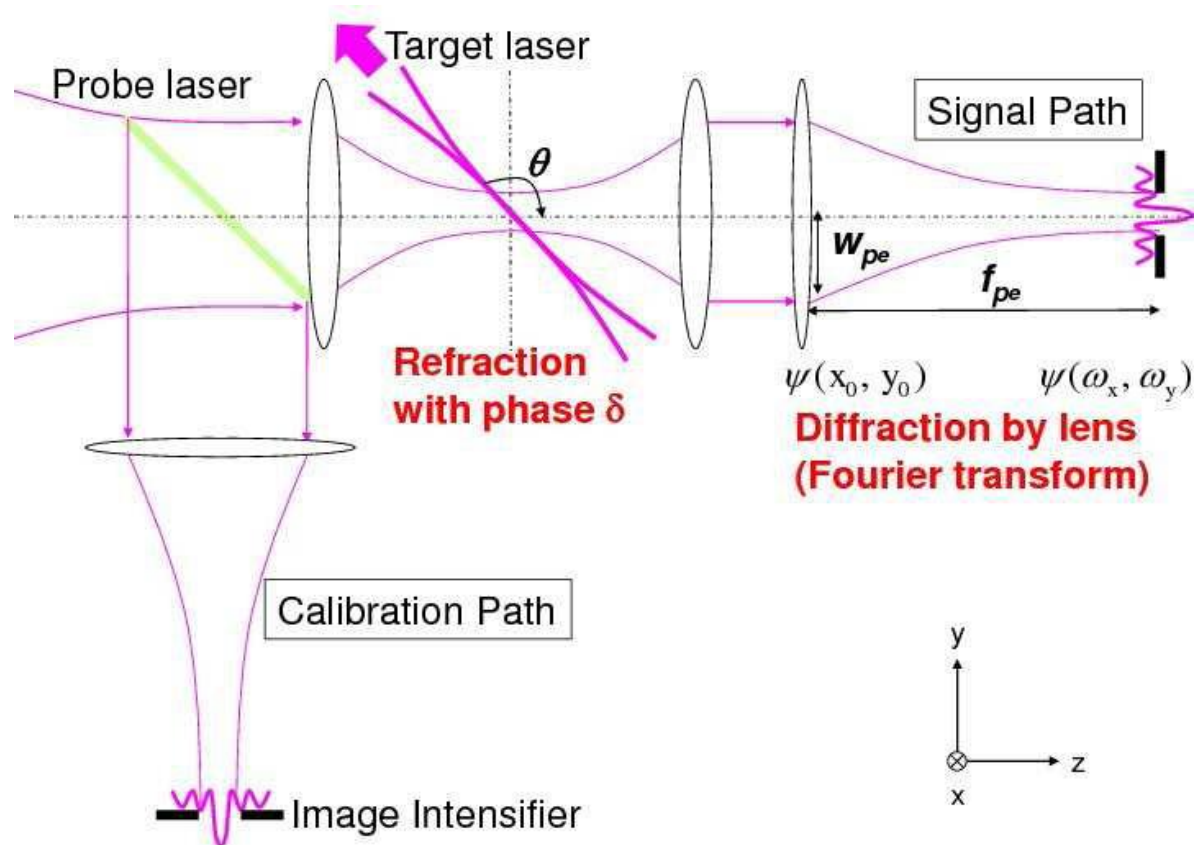


Probing semi-macroscopic vacua by high fields of lasers

K. Homma, D. Habs, and T. Tajima

(Dated: June 24, 2010)

arXiv:1006.4533




propose of the workshop

- Clarify physics cases
 - particle physics, astro physics , nuclear physics
 - experiment , theory
- feasibility
 - experiment, theory , lasers , facility (such as ATF)
- trend, status of comunities (ELI, Bella)
- extend , stimulate comunity
 - physics
 - laser acceleration
 - , , , , , , , ,

general plan

- date : Nov. 24 – 26 2010
- place : Kobayashi Hall at KEK
- Jointly held with, KEK , U Tokyo, JAERI, Hiroshima U, LMU
- Organizing Committee
 - chair S. Iso (KEK) chair , co-chair T.Takahashi , ,
 - J. Urakawa (KEK) , K. Yokoya (KEK) , , , , ,
- Scientific Advisory Committee
 - T.Tajima (LMU) , H.Hasechi (ILE) , G. Mourou (CNRS) ,
 - K. Ueda (EMU) , A. Asuzki (KEK) , F. Takahashi (KEK)
- International Program Committee
 - chair K. Itakura (KEK) , co-chair K. Homma (広島大) ,
 - T.Takahashi (広島大) , K. Kori (KEK) , K. Kondo (JAERI)

Contents

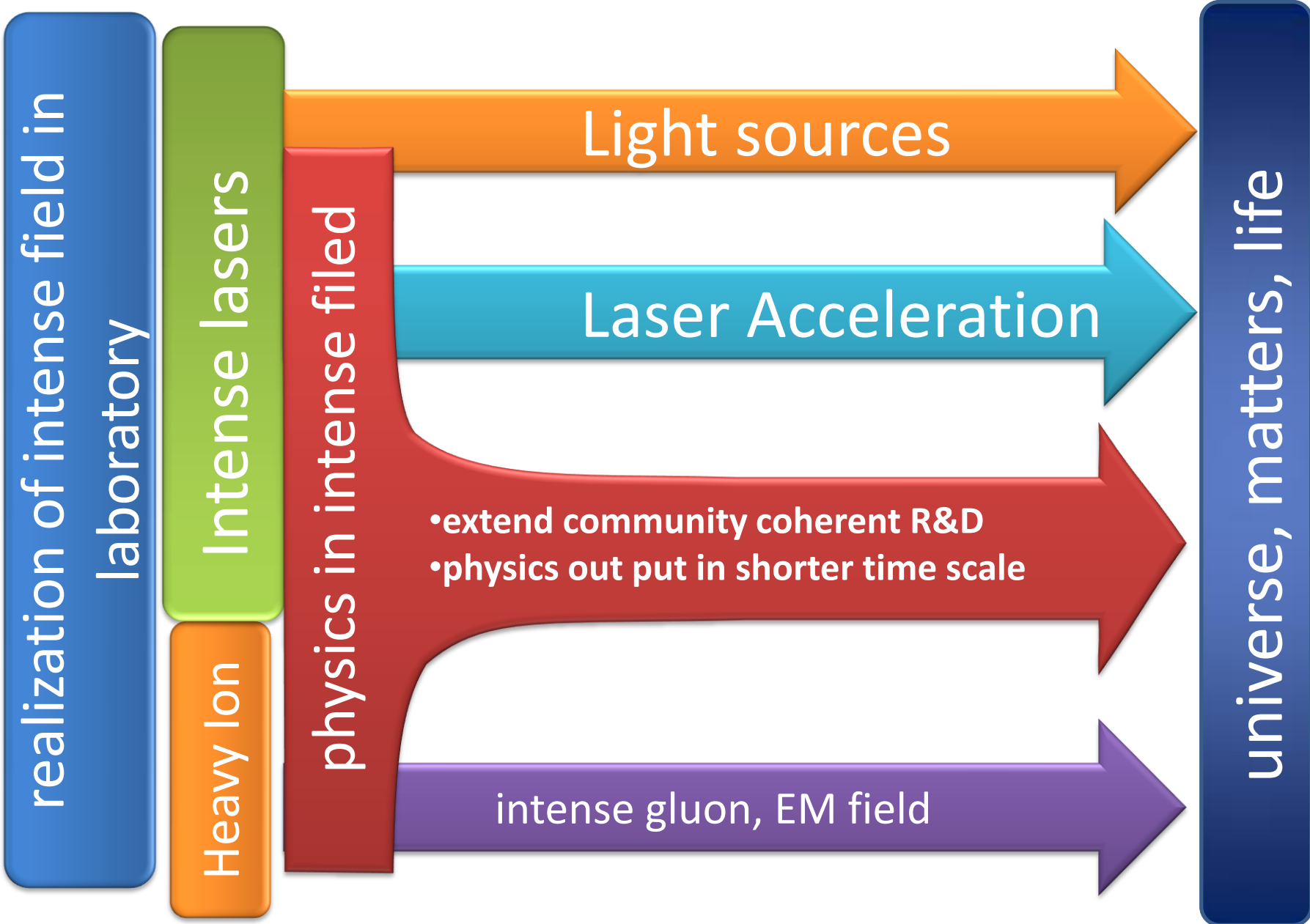
- Tutorial
 - Overview
 - QED,QCD , exp. , Laser acc. , Laser technology ,
 - talks
- Invited speaker
 - Toshiki Tajima (LMU)
 - Gerald Mourou(CNRS)
 - Dietrich Habs(LMU)
 - Pisin Chen(SLAC)
 - Kirill Tuchin (BNL)

Confirmed as of June 30

 - Ralf Schutzhold (Essen)
 - Bill Unruh (British Columbia)
 - Mattias Marklund (Umeå)
 -

Background of the workshop

slide for DG suzuki
2010/5/6



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